

## ABSTRACT

A current measuring apparatus comprises a current detection unit 10 and a photoelectric converter 20. The current detection unit 10 comprises an optical fiber sensor 11 extended or looped around a conductor 30. A reflective film 12 is attached to one end of the sensor 11 so that light can be reflected by the end of the sensor. The current detection unit 10 further comprises a first Faraday element 13, a light-transmitting birefringent member 14, a first optical fiber 15, a second optical fiber 16 and a lens 17. The Faraday element 13 rotates a plane of polarization of the incident light through about  $22.5^\circ$ . The birefringent member 14 functions to separate the light emitted from the sensor 11 into an ordinary ray  $L_1$  and an extraordinary ray  $L_2$  that are orthogonal to each other, and to transmit linearly polarized light  $L_0$  emitted from a light source. The lens 17 is provided between the element 13 and the birefringent member 14. Focal points of the lens are formed at core portions of an input end 11a of the sensor 11 and an end face 15a of the first optical fiber 15. With this arrangement, the number of components is reduced and the apparatus is reduced in size.